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|--|---|-----------------------------------|
| <b>Piscataquis Community High School</b> | ) | <b>Departmental</b>               |
| <b>Piscataquis County</b>                | ) | <b>Findings of Fact and Order</b> |
| <b>Guilford, Maine</b>                   | ) | <b>Air Emission License</b>       |
| <b>A-68-71-E-A</b>                       | ) | <b>Amendment #1</b>               |

After review of the air emissions license amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

## **I. REGISTRATION**

### **A. Introduction:**

Piscataquis Community High School (PCHS) in Guilford, Maine was issued air emission license A-68-71-D-N on March 18, 2002 permitting the operation of emission sources associated with their educational facility.

Based on the fact that the PCMS boiler is on the same campus, PCHS has requested an amendment to their air emission license to add two boilers to this license which are located at the Piscataquis Community Middle School (PCMS).

### **B. Emission Equipment:**

PCHS is licensing to operate the following equipment:

#### **Fuel Burning Equipment**

| <b><u>Equipment</u></b> | <b><u>Maximum Capacity (MMBtu/hr)</u></b> | <b><u>Maximum Firing Rate (gal/hr)</u></b> | <b><u>Fuel Type, % sulfur</u></b> | <b><u>Stack #</u></b> | <b><u>Location</u></b> |
|-------------------------|---|--|-----------------------------------|-----------------------|------------------------|
| PCHS Boiler #1          | 13.67                                     | 91.1                                       | #2, 0.5%                          | PCHS 1                | PCHS                   |
| <b>PCMS Boiler #1</b>   | 4.9                                       | 35.0                                       | #2, 0.35%                         | PCMS 1                | PCMS                   |
| <b>PCMS Boiler #2</b>   | 4.9                                       | 35.0                                       | #2, 0.35%                         | PCMS 1                | PCMS                   |

**Bold** depicts new equipment to this license.

### **C. Application Classification:**

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as given in Maine's Air Regulations. This modification is determined to be a minor modification and has been processed as such.

## **II. BEST PRACTICAL TREATMENT (BPT)**

### **A. Introduction:**

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Chapter 100 of the Air Regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

### **B. PCMS Boiler #1 & PCMS Boiler #2:**

PCMS Boiler #1 and PCMS Boiler #2 were manufactured in 1994 each with a maximum heat input capacity of 4.9 MMBtu/hr firing 0.35% sulfur #2 fuel oil. They are therefore not subject to EPA New Source Performance Standards (NSPS) Subpart Dc, for boilers with a heat input of 10 MMBtu/hr or greater and manufactured after June 9, 1989.

A summary of the BACT analysis for PCMS Boiler #1 & PCMS Boiler #2 follows:

- Use of 0.35% sulfur #2 fuel oil.
- SO<sub>2</sub> emission data was based on fuel sulfur mass balance.
- Emission rates for NO<sub>x</sub> when firing #2 fuel oil is based on BACT of 0.3 lb/MMBtu.
- CO and VOC emission data taken from AP-42 dated 10/96 for industrial boilers.
- Emission rates for PM when firing #2 fuel oil are based on BACT of 0.08 lb/MMBtu.
- Visible emissions from common PCMS Stack 1 shall not exceed an opacity of 30 percent on a six (6) minute block average basis, except for no more than three (3) six (6) minute block averages in a 3-hour period.

### **C. Annual Emissions:**

PCHS is limited to the following fuel usage and has the following annual emissions, based on a 12 month rolling total:

- Fuel use in PCHS Boiler #1 of 424,000 gallons per year of #2 fuel oil, 0.5% sulfur by weight.

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- Combined fuel use in PCMS Boiler #1 and PCMS Boiler #2 of 60,000 gallons per year of #2 fuel oil, 0.35% sulfur by weight.

**Total Allowable Annual Emission for the Facility**  
(used to calculate the annual license fee)

| <u>Pollutant</u> | <u>Tons/Year</u> |
|------------------|------------------|
| PM               | 3.9              |
| PM <sub>10</sub> | 3.9              |
| SO <sub>2</sub>  | 16.4             |
| NO <sub>x</sub>  | 10.2             |
| CO               | 1.2              |
| VOC              | 0.05             |

### **III. AMBIENT AIR QUALITY ANALYSIS**

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Based on the total facility emissions, PCHS is below the emissions level required for modeling and monitoring.

#### **ORDER**

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License amendment A-68-71-E-A subject to the conditions found in Air Emission License A-68-71-D-N and in the following conditions:

**The following replaces Condition (16) of Air Emission License A-68-71-D-N:**

(16) PCHS Boiler

A. Emissions from PCHS Boiler #1 shall not exceed the following:

| <u>Pollutant</u> | <u>lb/MMBtu</u> | <u>lb/hr</u> |
|------------------|-----------------|--------------|
| PM               | 0.12            | 1.64         |
| PM <sub>10</sub> | n/a             | 1.64         |
| SO <sub>2</sub>  | n/a             | 6.88         |
| NO <sub>x</sub>  | n/a             | 4.10         |
| CO               | n/a             | 0.49         |
| VOC              | n/a             | 0.02         |

- B. Visible Emissions from PCHS Stack #1 shall not exceed 30% opacity on a six (6) minute block average except for no more than 2 six-minute block averages in a 3 hour period.
- C. Fuel use in PCHS Boiler #1 shall not exceed 424,000 gal/year of #2 fuel oil, based on a 12-month rolling total, with a maximum sulfur content of 0.5% by weight. Compliance shall be demonstrated through fuel use records and receipts showing the sulfur content of the fuel, which shall be maintained on a 12-month rolling basis.

**The following are new conditions:**

(18) PCMS Boilers

- A. Emissions from PCMS Boiler #1 & #2 shall each not exceed the following:

| <u>Pollutant</u> | <u>lb/MMBtu</u> | <u>lb/hr</u> |
|------------------|-----------------|--------------|
| PM               | 0.08            | 0.39         |
| PM <sub>10</sub> | n/a             | 0.39         |
| SO <sub>2</sub>  | n/a             | 1.73         |
| NO <sub>x</sub>  | n/a             | 1.47         |
| CO               | n/a             | 0.18         |
| VOC              | n/a             | 0.01         |

- B. Visible emissions from common PCMS Stack #1 shall not exceed an opacity of 30 percent on a six (6) minute block average basis, except for no more than three (3) six (6) minute block averages in a 3-hour period.
- C. Fuel use in PCMS Boiler #1 and PCMS Boiler #2 shall not exceed a combined total of 60,000 gal/year of #2 fuel oil, based on a 12-month rolling total, with a maximum sulfur content of 0.35% by weight. Compliance shall be demonstrated through fuel use records and receipts showing the sulfur content of the fuel, which shall be maintained on a 12-month rolling basis.
- (19) PCHS shall pay the annual air emission license fee within 30 days of **June 30th** of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA §341-D, subsection 3.

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(20) This amendment shall expire concurrently with Air Emission License A-068-71-D-N.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2003.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: \_\_\_\_\_  
DAWN R. GALLAGHER, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: May 23, 2003

Date of application acceptance: June 2, 2003

Date filed with the Board of Environmental Protection: \_\_\_\_\_

This Order prepared by Mark E. Roberts, Bureau of Air Quality